ROUGE OXBOw RESTORATION PROJECT- PHASE III

CONSTRUCTION FUNDED BY EPA THROUGH GLRI AWARD NO. GL-00E02040

FOR BIDDING - OCTOBER, 2017

DRAWING INDEX
C-1. COVER SHEET
C-2. ACCESS & STAGING PLAN
C-3. EXISTING CONDITIONS PLAN
C-4. SITE PREPARATION PLAN
C-5. DEMOLITION PLAN
C-6. PROPOSED PLAN
C-7. GRADING PLAN
C-8. GRADING SECTIONS
C-9. RE-VEGETATION PLAN
C-10. RE-VEGETATION DETAILS
S-1. BRIDGE PLAN & ELEVATIONS
S-2. BRIDGE SECTIONS
S-3. BORING LOGS
S-4. PILE LAYOUT
S-5. FOUNDATION DETAILS
S-6. PRECAST CONCRETE STRUCTURE DETAILS
S-7. PRECAST CONCRETE STRUCTURE DETAILS 2
S-8. PRECAST CONCRETE SPECIFICATION
S-9. GUARDRAIL DETAIL SHEET 1 OF 2
S-10. GUARDRAIL DETAIL SHEET 2 OF 2
S-11. TYPICAL SECTIONS

PROJECT DESIGN FUNDED BY THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION THROUGH A GREAT LAKES RESTORATION INITIATIVE GRANT. GLRI NOAA AWARD NO. NA13MF4630214.

PROJECT CONSTRUCTION FUNDED BY THE ENVIRONMENTAL PROTECTION AGENCY THROUGH A GREAT LAKES RESTORATION INITIATIVE GRANT. GLRI EPA AWARD NO. GL-00E02040-0.
BEFORE YOU DIG
CALL MISS DIG

ACCESS & STAGING PLAN

SHEET TITLE

ECT PROJECT NUMBER

C-2

SHEET NUMBER

NORTH

OXBOW RESTORATION PROJECT- PHASE III

DEARBORN, WAYNE COUNTY, MICHIGAN

DESIGNED BY

DRAWN BY

CHECKED BY

APPROVED BY

130825 8-12-14

75% DESIGN


9-12-14

PERMIT APPLICATION

STAGING/ACCESS NOTES:

1. EQUIPMENT ACCESS AND STAGING AND MATERIALS STORAGE CAN OCCUR WITHIN THE WORK AREA IN ADDITION TO DESIGNATED STAGING AREAS. NO ADDITIONAL CLEARING OF VEGETATION FOR ACCESS OR STAGING IS PERMITTED WITHOUT APPROVAL OF THE ENGINEER AND OWNER.

2. ANY AREA DESIGNATE FOR ACCESS OR ACCESS ACTIVITIES TO BE AUTHORIZED AT THE END OF THE PROJECT. USE INDICATES EAGLE LANE.

3. CONTRACTOR TO COORDINATE USE OF STAGING AREAS WITH THE HENRY FORD TO BE SECURED FROM ENTRANCE FROM THE RIVER SIDE. CHAIN LINK FENCE OR EQUAL TO BE USED TO SECURE SITE.

4. CONTRACTOR TO COORDINATE USE OF STAGING AREAS WITH THE HENRY FORD.

5. TRAFFIC SIGNAGE TO BE AT EAGLE LANE TO PROVIDE DETOUR INFORMATION FOR VILLAGE TRAFFIC, AS DIRECTED BY THE HENRY FORD.

6. THERE IS PEDESTRIAN TRAFFIC, WATER TRAFFIC, AND ATV TRAFFIC ALONG THE ROUGE RIVER CONCRETE CHANNEL. TRAFFIC SIGNS ALONG THE RIVER TO BE INSTALLED PER DIRECTION OF THE HENRY FORD.

7. CONSTRUCTION TRAFFIC TO ACCOMMODATE THESE ACTIVITIES.
EXISTING SITE CONDITIONS

1. The Contractor shall become familiar with all existing site conditions prior to starting work.
2. The Contractor understands and acknowledges that the work is required within a river system and floodplain.
3. The Contractor shall be aware of the Oxbow Restoration Project and the requirements of the Engineer.
4. The Contractor acknowledges that delays in the start of construction work due to typical seasonal rainfall and due to typical periodic high flows in the River shall not constitute a basis for any extension of time or damages. If the Contractor is unavoidably delayed in beginning or completing the work by reason of excessive storm or floods the Contractor shall have no valid claim for damages. Notice in such case be entitled to an extension of time as the Contractor shall be just and reasonable. Provided that formal claim for an extension of time is made in writing by the Contractor in accordance with the terms of the Agreement.

NOTES:
1. Horizontal Datum is NAD83 State Plane (Michigan South)
2. Vertical Datum is NAVD88

SCALE: 1" = 20' @ 22" x 34"
GENERAL NOTES:

1. HORIZONTAL DATUM IS NAD83 STATE PLANE (MICHIGAN SOUTH).
2. VERTICAL DATUM IS NAVD88.
3. SCALE: 1" = 20' @ 22" x 34"
4. SHEET TITLE: PLAN\130825\08-12-14\P:\Alliance of Rouge Communities\Grant Projects\2013 NOAA Oxbow Phase III\CAD\Oxbow_III_100%DesignDrawings_11.7.14.dwg

CLEARING AND GRUBBING NOTES:

1. REVIEW CLEARING LIMITS AND TREE REMOVALS WITH PROJECT ENGINEER PRIOR TO BEGINNING WORK.
2. BRUSH CUTTING AND CLEARING EQUIPMENT SHALL NOT BE PERMITTED ON SITE.
3. HYDRAULIC AXE AND/OR SIMILAR CLEARING EQUIPMENT SHALL NOT BE PERMITTED ON SITE.
4. SOIL EROSION AND SEDIMENT CONTROL NOTES:
   a. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SITE DRAINAGE OF THE EARTH CHANGE ACTIVITY AND MAINTAIN THE MEASURES ON A DAILY BASIS. REMOVE TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES UNTIL PERMANENT MEASURES ARE INSTALLED.
   b. INSTALL PERMANENT EROSION CONTROL MEASURES WITHIN 5 DAYS OF COMPLETING FINAL GRADING OR MAINTAIN EXISTING FENCING AND SOIL EROSION CONTROL.Options IN SPECIFICATIONS until permanent measures are installed.
   c. INSTALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES BEFORE OR UPON COMMENCEMENT OF THE EARTH CHANGE.
   d. INSTALL PERMANENT EROSION CONTROL MEASURES WITHIN 5 DAYS OF COMPLETING FINAL GRADING OR MAINTAIN EXISTING FENCING AND SOIL EROSION CONTROL OPTIONS IN SPECIFICATIONS until permanent measures are installed.
   e. REMOVE SEDIMENT CAUSED BY ACCELERATED SOIL EROSION FROM RUNOFF WATER BEFORE IT LEAVES THE SITE.
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   i. REMOVE SEDIMENT CAUSED BY ACCELERATED SOIL EROSION FROM RUNOFF WATER BEFORE IT LEAVES THE SITE.
   j. INSTALL PERMANENT EROSION CONTROL MEASURES WITHIN 5 DAYS OF COMPLETING FINAL GRADING OR MAINTAIN EXISTING FENCING AND SOIL EROSION CONTROL OPTIONS IN SPECIFICATIONS until permanent measures are installed.

AVON COUNTY GENERAL NOTES:

1. HORIZONTAL DATUM IS NASS STATE PLANE (MICHIGAN SOUTH).
2. VERTICAL DATUM IS NAVD88.

NOTE: ACCESS TO THE RIGHTS-OF-WAY IS REQUIRED FOR PROJECT CONSTRUCTION WORK.

SCALE: 1" = 20' @ 22" x 34"

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1. NECESSARY UNLESS PUBLIC GENERAL NOTES:
   STAGING AREAS AS INDICATED ON THE PLANS, UNLESS OTHERWISE APPROVED BY ENGINEER.

2. SURVEY DATA PRESENTED IN THESE DRAWINGS WAS PROVIDED BY:
   MIDWESTERN CONSULTANTS, INC.
   BASE SURVEY OF PROJECT AREA PROVIDED BY MIDWESTERN CONSULTANTS, INC., APRIL 2014.

   HORIZONTAL SURVEY DATUM: NAD 83 STATE PLANE (MICHIGAN SOUTH)
   VERTICAL SURVEY DATUM: NAVD 88

3. BASE OF PROJECT AREA PROVIDED BY MIDWESTERN CONSULTANTS, INC., APRIL 2014.

   WHERE AS HORIZONTAL SURVEY DATUM: NAD 83 STATE PLANE (MICHIGAN SOUTH)
   VERTICAL SURVEY DATUM: NAVD 88

   3815 PLAZA DRIVE
   MIDWESTERN CONSULTANTS, INC.

4. BASE OF PROJECT AREA PROVIDED BY MIDWESTERN CONSULTANTS, INC., APRIL 2014.

   WHERE AS HORIZONTAL SURVEY DATUM: NAD 83 STATE PLANE (MICHIGAN SOUTH)
   VERTICAL SURVEY DATUM: NAVD 88

   3815 PLAZA DRIVE
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   WHERE AS HORIZONTAL SURVEY DATUM: NAD 83 STATE PLANE (MICHIGAN SOUTH)
   VERTICAL SURVEY DATUM: NAVD 88

   3815 PLAZA DRIVE
   MIDWESTERN CONSULTANTS, INC.

   BASE SURVEY OF PROJECT AREA PROVIDED BY MIDWESTERN CONSULTANTS, INC., APRIL 2014.
1. All disturbed areas shall be pre-conditioned for this placement by being held under similar conditions in a wet environment at the nursery before branching out to other north central states. Native plantings include all trees, shrubs, and plugs.

2. Native seed areas shall be seeded after May 1 (when soil is free of frost and in workable condition), but before June 28 or after October 1, but neither November 15 or prior to freeze-out or as approved by the Engineer.

3. Seedbed preparation: cut any existing vegetation to 4 (four) inch height and apply herbicide as necessary. Prior to seeding native seeds, loosen soil so that the seed mixes are at least as deep as seed depth. Seed bed shall be firm to touch by hand. Virginal soil shall be worked to depth of 6 (six) inches or as required for native seed mixes. All water used in hydroseeding shall be free of substances detrimental to plant growth and shall be suitable for incorporation into surface layers only. Irrigation, if necessary, shall be maintained as required. Native seed mixes shall ensure complete coverage of designated area. Re-seeds in areas with gaps in seeding at no additional cost. Seed drills are also acceptable.

4. Planting stock shall be true to their name (genus and species) as specified. Cultivars and synonyms shall not be used without prior approval by consultant.

5. Native plantings are installed in the "wet and mitigation" and "mitigation" environment.

6. Plants shall be nursery grown in accordance with good horticultural practices and must meet applicable requirements of ICBN and ICNCP. Plants shall be sound, healthy and vigorous, well-branched and evenly foliated when used. Plants shall be free of disease, insects or other extraneous material. Watering from surface and center roots, and shall not be root-bound. Respect maximum storage times for plant stock. Avoid using shallow rooted species of plants in areas where normal vegetation condition is provided. Shallow rooted species of plants may be used in areas of normal vegetation condition but prior to seeding native seeds. Do not plant prior to July 1 or after September 1, but prior to October 1, or prior to freeze-out or as approved by the Engineer.

7. All PLANTING'S shall be protected from traffic and erosion in newly seeded areas and the mitigation areas is the responsibility of the Contractor. Safety fences shall be installed on the mitigation area. The Contractor shall be responsible for the mitigation of traffic and erosion.

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10. Native plantings shall be reseeded by hand at the recommended application rate at no additional cost to owner. Extend the warranty period correspondingly.

11. Field adjustments to species density across the planting areas and to meet finish grade of the swales with plantings required in the plans based on depth. All adjustments will be shown on an as-built plan and submitted to the consultant upon completion.

12. Native plantings are installed in the "wet and mitigation" and "mitigation" environment.

13. Plants shall be nursery grown in accordance with good horticultural practices and must meet applicable requirements of ICBN and ICNCP. Plants shall be sound, healthy and vigorous, well-branched and evenly foliated when used. Plants shall be free of disease, insects or other extraneous material. Watering from surface and center roots, and shall not be root-bound. Respect maximum storage times for plant stock. Avoid using shallow rooted species of plants in areas where normal vegetation condition is provided. Shallow rooted species of plants may be used in areas of normal vegetation condition but prior to seeding native seeds. Do not plant prior to July 1 or after September 1, but prior to October 1, or prior to freeze-out or as approved by the Engineer.

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16. Plants shall be nursery grown in accordance with good horticultural practices and must meet applicable requirements of ICBN and ICNCP. Plants shall be sound, healthy and vigorous, well-branched and evenly foliated when used. Plants shall be free of disease, insects or other extraneous material. Watering from surface and center roots, and shall not be root-bound. Respect maximum storage times for plant stock. Avoid using shallow rooted species of plants in areas where normal vegetation condition is provided. Shallow rooted species of plants may be used in areas of normal vegetation condition but prior to seeding native seeds. Do not plant prior to July 1 or after September 1, but prior to October 1, or prior to freeze-out or as approved by the Engineer.

17. Field adjustments to species density across the planting areas and to meet finish grade of the swales with plantings required in the plans based on depth. All adjustments will be shown on an as-built plan and submitted to the consultant upon completion.
**NOTES**

**PRECAST CONCRETE BRIDGE SYSTEM**

1. THIS ITEM SHALL BE A PRECAST BRIDGE SYSTEM CONSISTING OF CON/SPAN® BRIDGE SYSTEMS OR APPROVED EQUAL THAT INCLUDE THE PRECAST Reinforced Concrete Arch Structures and Foundation Hanger Units. The Foundation Hanger Units shall be installed using a Backfill Zone of Material for their performance.

2. THE ARCH AND WINGWALLS MUST BE PLACED AT THE SAME TIME.

3. THE FORMWORK UTILIZED IN THE MANUFACTURE OF THE PRECAST CONCRETE ARCH UNITS MUST BE FREE OF STONES LARGER THAN 3" IN DIAMETER.

4. THE ARCH AND WINGWALLS MUST BE PLACED AT THE SAME TIME.

5. THE PRECAST CONCRETE ARCH SUPPLIER MUST PROVIDE ONE OF THE FOLLOWING:
   - A CRITICAL BACKFILL ZONE OF MATERIAL, FOR THEIR PERFORMANCE.
   - INSTALLING A COMPLETE AND FUNCTIONAL STRUCTURE WHICH SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT.
   - PROVIDING INFORMATION MUST INCLUDE SPAN, RISE, LENGTH OF STRUCTURE, DESIGN LOADING, AND DATA OF INSTALLATION.

6. THE PRECAST CONCRETE ARCH SUPPLIER MUST PROVIDE A FIELD TECHNICAL REPRESENTATIVE THAT IS
   - A REGISTERED PROFESSIONAL ENGINEER during the delivery and installation of the precast bridge system.

7. THE FORMWORK UTILIZED IN THE MANUFACTURE OF THE PRECAST CONCRETE ARCH UNITS MUST BE FREE OF STONES LARGER THAN 3" IN DIAMETER.

8. THE PRECAST CONCRETE ARCH UNITS MUST BE PLACED AT THE SAME TIME.

9. THE PRECAST CONCRETE ARCH SUPPLIER MUST PROVIDE A FIELD TECHNICAL REPRESENTATIVE THAT IS A REGISTERED PROFESSIONAL ENGINEER during the delivery and installation of the precast bridge system.

10. THE MATERIALS FOR PRECAST CONCRETE BRIDGE SYSTEMS MUST INCLUDE:
    - BACKFILL ZONE (C.B.Z.)
    - ACCEPTABLE MATERIAL
    - ZONE A
    - LIMITS OF FINISHED GRADE LIMIT
    - LIQUID LIMIT
    - PERCENT PASSING
    - FILL
    - 4' MIN TO 1'-6" MAX
    - THE FORMWORK UTILIZED IN THE MANUFACTURE OF THE PRECAST CONCRETE ARCH UNITS MUST BE FREE OF STONES LARGER THAN 3" IN DIAMETER.

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BFORE YOU DIG
CALL MISS DIG
THEREFORE, USE MINIMUM 48 FEET LENGTH OF GUARDRAIL FOR ALL THE SIDES.

TYPICAL BRIDGE APPROACH GUARDRAIL DETAIL

LENGTH OF GUARDRAIL FOR TYP A

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TYPICAL SECTION AT BRIDGE

PROPOSED CHANNEL TYPICAL SECTION (STA 0+88.0 TO STA 1+17.8)

PROPOSED CHANNEL TYPICAL SECTION (STA 1+48.0 TO STA 2+10.0)

PROPOSED CHANNEL TYPICAL SECTION (STA 2+10.0 TO STA 3+41.7)

NOTE
- For the design of the channel and the bridge, please refer to the detailed specifications provided in the project documents.

PROPOSED CHANNEL TYPICAL SECTION (STA 3+41.7 TO STA 4+71.0)

TYPICAL SECTION AT BRIDGE APPROACH (BOTH SIDES OF BRIDGE)